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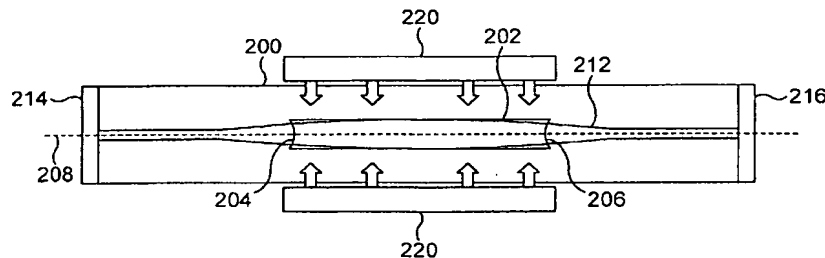
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(54) Title: A LASER APPARATUS



(57) **Abstract:** In a first embodiment, the invention makes use of a Neodymium doped YAG (Nd:Y.A.G) gain medium (202) placed in an optical resonant cavity (200) formed by two mirrors (214, 216). Power extraction is maximised for a specific laser cavity. In particular the concave curvature on the rod ends (204, 206) contributes a negative lensing component to modify the strength of the thermal lens. In a second embodiment the present invention uses an amplifier rod medium (800) with curved ends (802, 804) to act as lensing elements to collect emission from laser gain medium and or oscillator described in the first embodiment of the invention. The combination of thermal lens and curved rod ends produces a lensing effect which allows light to be directly coupled from a laser. In addition, variation of the input pump power allows for control of the thermal lens formed within the amplifier rod.

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